

Applicants: Zumbrunn et al.

Application No. 10/550,778

Amendment and Response to Restriction Requirement dated June 16, 2009

Page 43

### REMARKS

Claims 41-46 have been cancelled herein, and the claims have been amended to delete non-elected subject matter. In claim 40, the groups  $R^9$ ,  $R^{10}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$ ,  $R^{27}$ ,  $R^{28}$ ,  $R^{29}$ , and  $R^{71}$  have been deleted. Moreover, claim 40 has been amended to recite  $R^{33}$ ,  $R^{34}$ ,  $R^{50}$ ,  $R^{57}$ ,  $R^{58}$ ,  $R^{59}$ ,  $R^{60}$ ,  $R^{61}$ ,  $R^{62}$ , and  $R^{64}$ . These groups were defined in the original patent application (i.e., in PCT Application No. PCT/EP03/004641). In the definition of  $R^{77}$  in claim 40, the expression " $-C_6R^{67}R^{68}R^{69}R^{70}R^{76}$ " has been replaced with  $R^{87}$  for which the following definition has been added in claim 40: "phenyl, p-hydroxyphenyl, 2-naphthyl, 1-naphthyl, 4-chlorophenyl, 3-chlorophenyl, 2-chlorophenyl, 3,4-dichlorophenyl, 4-fluorophenyl, 3-fluorophenyl, 2-fluorophenyl, p-benzyloxyphenyl, p-biphenyl or p-benzoylphenyl". Support for this amendment may be found in the listing of the particularly preferred residues for group D appearing on page 59 of the PCT application, to the extent that they are aromatic (6 C atoms with 5 substituents) but not heterocyclic, namely, Phe, Phg and hPhe; Tyr; 2-Nal; 1-Nal; 4Cl-Phe; 3Cl-Phe; 2-Cl-Phe; 3,4Cl<sub>2</sub>-Phe; 4F-Phe; 3F-Phe; 2F-Phe; Y(Bzl); Bip; and Bpa. Claim 66 has been amended with regard to form to delete the phrase "any one of". Applicants reserve the right to pursue the cancelled subject matter, including all non-elected subject matter in one or more continuation and/or divisional applications.

In the Office Communication, the Examiner required restriction under 35 U.S.C. §121 between one of the groups as detailed in the Office communication, which the Examiner has identified as distinct inventions.

Applicants provisionally elect, with traverse, to prosecute Group 3, which corresponds to claims 40-64 in part, drawn to compounds/compositions wherein A includes a five-membered ring with nitrogen as in A5-A11, A79, and A82-A83.

Applicants: Zumbrunn et al.

Application No. 10/550,778

Amendment and Response to Restriction Requirement dated June 16, 2009

Page 44

For whichever group is elected, the Examiner has further required an election of a specific compound such that all variable groups are uniquely defined. Applicants elect as the species SEQ ID NO: 12, which is set forth in Example 12 of Table 2, with traverse. Claim 55 reads on the elected species.

The Examiner has stated that the sequence of amino acids of the prior art (STN database entry for registry number 493552-90-2 entered February 21, 2003, 2 pages) is of the general formula of the peptide of the instant invention. However, the peptide of the prior art is taken from a protein, and its chemical identity and environment can therefore not be compared to the peptide of the instant invention, which is much smaller than a protein. In fact, the N-terminal and C-terminal substitutes at the ends of the sequence are completely different because the instant invention has an H-atom and an OH-group, respectively. Moreover, there is at least one D-amino acid, namely of the formula A-C-O, in the present invention whereas only L-amino acids are found in the protein (see the stereochemistry of the residues A5 - A11, A79, and A82 - A83).

It also is worth noting that one skilled in the art cannot precisely predict the three dimensional structure of a protein including circa 800 amino acids, and its determination by X-ray crystallography, for example, is very tedious. The probability that the relevant sequence of the protein adopts a beta-hairpin structure like the instantly claimed sequence is extremely low. Hence, one of ordinary skill in the art would expect the three dimensional structures of the sequences at stake to be completely different.

Therefore, the technical features of the instant invention are a contribution over the prior art.

Applicants: Zumbrunn et al.  
Application No. 10/550,778  
Amendment and Response to Restriction Requirement dated June 16, 2009  
Page 45

The claims which have been now restricted to Group 3 are supported by the examples set forth in the two Tables (Ex. 4-5, 7-20, 23-24), and have the same special technical features. Therefore, they relate to a single general inventive concept.

In case the Examiner does not accept to restrict the claims to Group 3, Applicants propose to restrict the claims to the template as <sup>D</sup>Pro-<sup>L</sup>Pro or <sup>L</sup>Pro-<sup>D</sup>Pro instead of only restricting the claims to the elected species.

Upon indication of allowable subject matter, rejoinder and allowance of claims 65 and 66-70 is respectfully requested.

The Commissioner is hereby authorized to charge payment of any fees associated with this communication, or credit any overpayment, to Deposit Account No. 08-2461. Such authorization includes authorization to charge fees for extensions of time, if any, under 37 C.F.R. § 1.17 and also should be treated as a constructive petition for an extension of time in this reply or any future reply pursuant to 37 C.F.R. § 1.136.

Favorable action is earnestly solicited. If there are any questions or if additional information is required, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,



---

Andrea M. Wilkovich  
Registration No.: 53,773

HOFFMANN & BARON, LLP  
6900 Jericho Turnpike  
Syosset, New York 11791  
(973) 331-1700